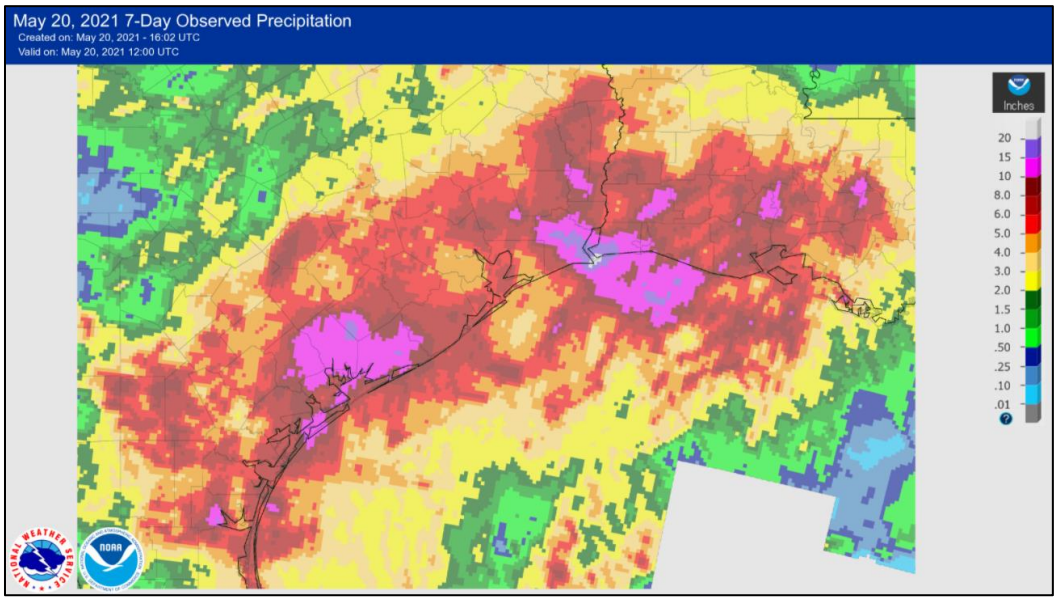
United States Department of Agriculture

Water and Climate Update

May 20, 2021

The Natural Resources Conservation Service produces this weekly report using data and products from the National Water and Climate Center and other agencies. The report focuses on seasonal snowpack, precipitation, temperature, and drought conditions in the U.S.

Record Rainfall along the Gulf Coast of Texas and Louisiana

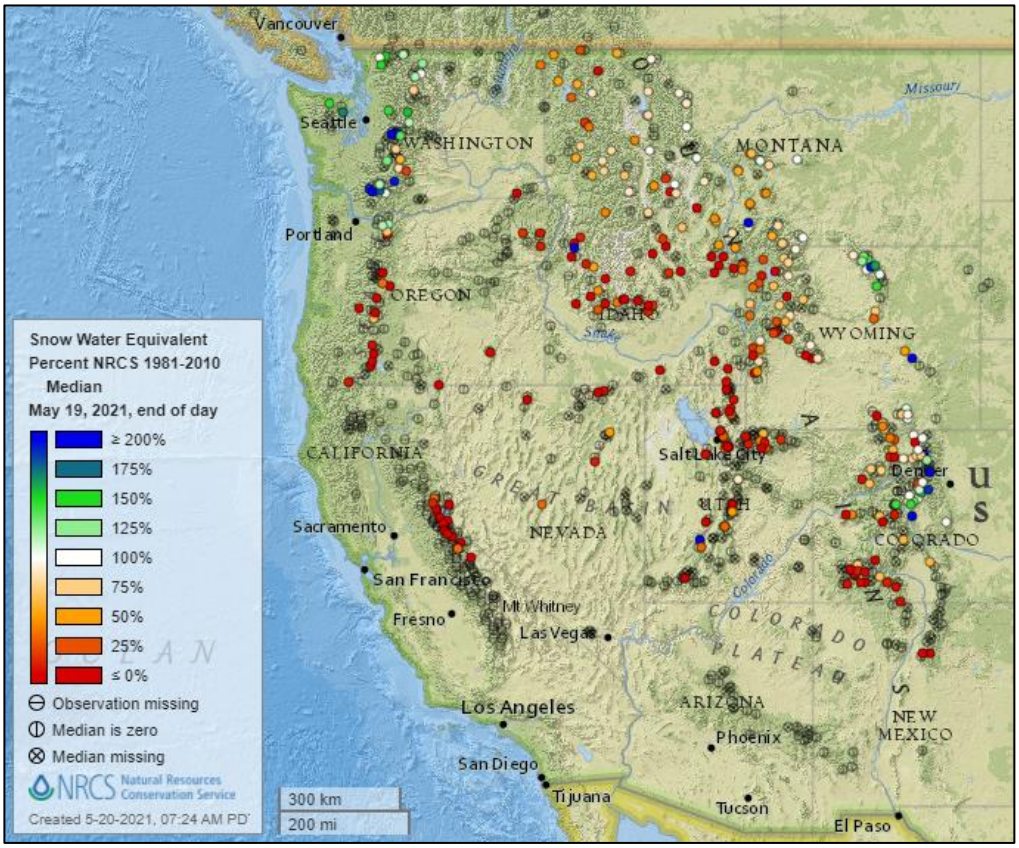


Heavy rain has inundated the gulf coast in Texas and Louisiana. Rainfall totals for the past 7 days have topped 10 inches in several large areas, and over 20 inches on the southeast border between the two states. Lake Charles, Louisiana had 12 – 15 inches of rainfall within 12 hours on Monday. The area is experiencing widespread flash flooding, with many rivers at flood stage or above. Damage is reported across the region with power outages and evacuations from inundated homes and buildings. Additional rainfall in the area is forecasted for later this week.

Related:

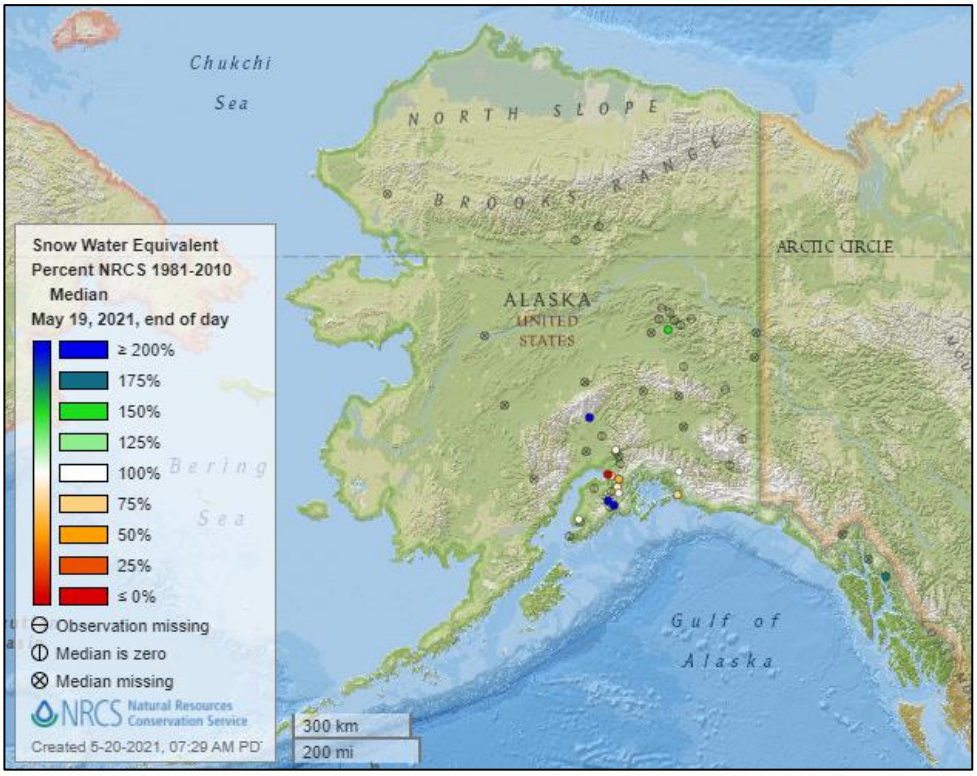
Heavy rains in Texas, Louisiana add to misery in flood zones - AP
Hundreds evacuated after record-setting rainfall - CNN
More rain, storms for waterlogged South, Texas – USA Today
Has New Orleans had more rain than usual this spring? Yes, more than twice as much – NOLA (LA)
80 people rescued in Louisiana after 1 foot of rain pummels hurricane-hit city – Yahoo! News
Millions in Texas and Louisiana are under flash flood watches due to torrential rain - CNN
Flooding leads to 'multiple' water rescues in state; more rainfall expected, forecasters say – Arkansas Democrat-Gazette (AR)
More rain fell in Lake Charles, Louisiana, on Monday than during the two damaging hurricanes last year - CNN

Snow



[Snow water equivalent percent of median map]

See also:
[Snow water equivalent values (inches) map]

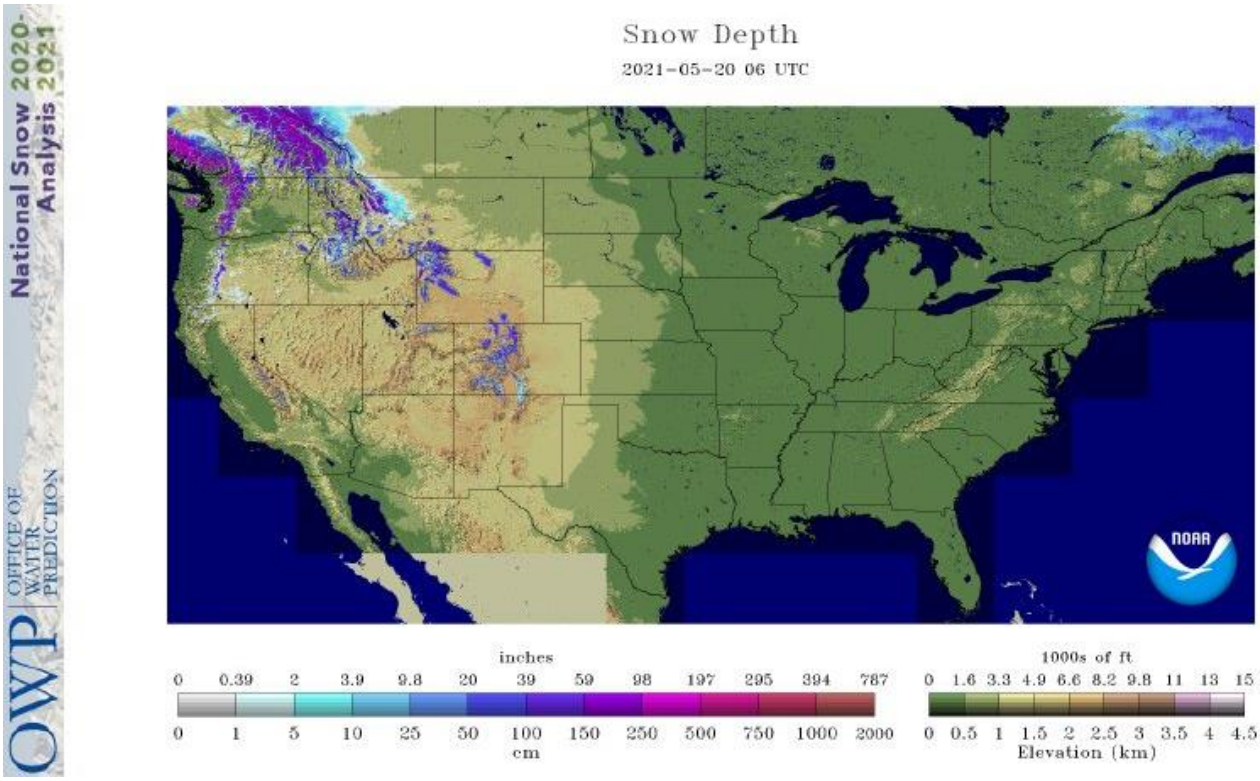


[Alaska snow water equivalent percent of median map]

See also:
[Alaska snow water equivalent values (inches) map]

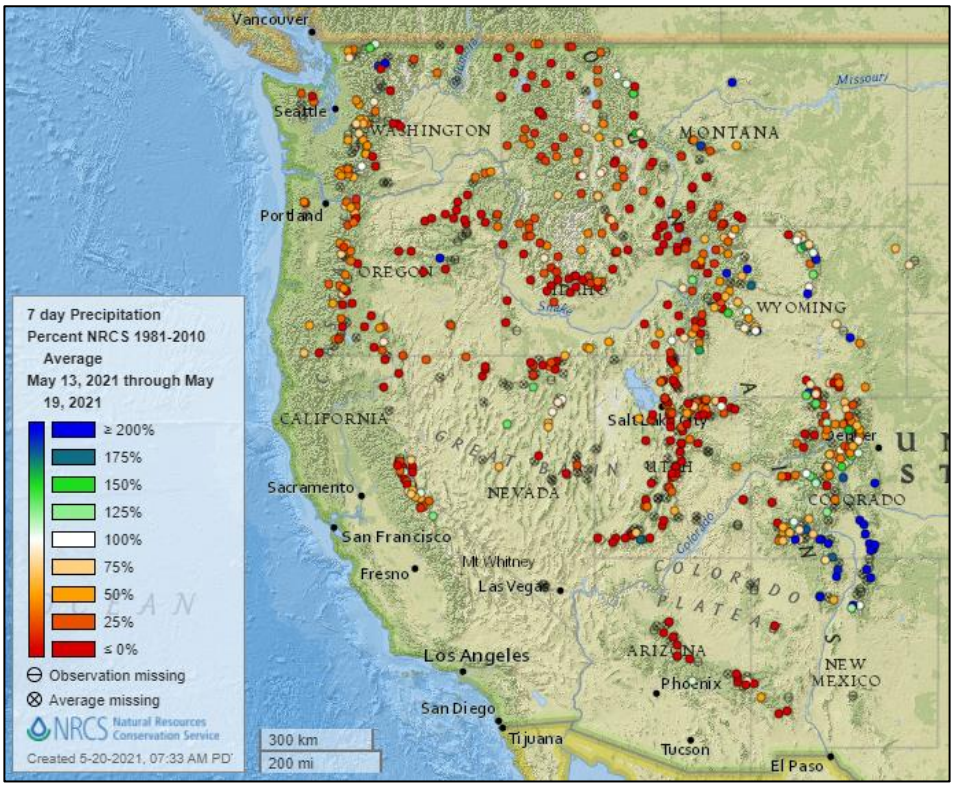
Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA Office of Water Prediction



Precipitation

Last 7 Days, NRCS SNOTEL Network

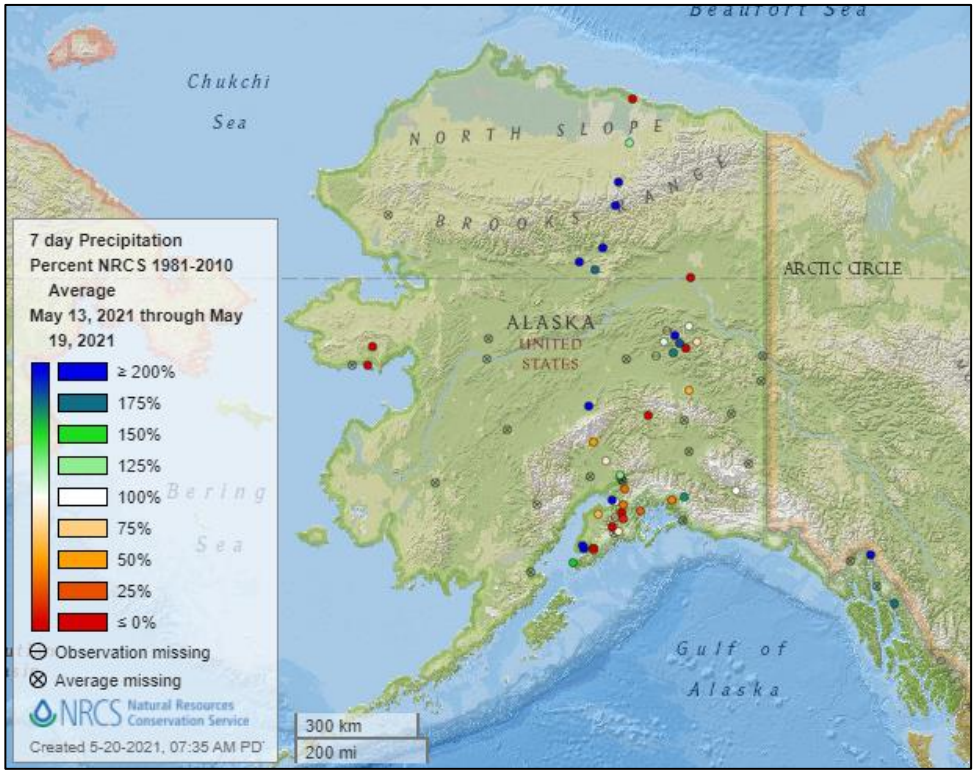


[7-day precipitation percent of average map]

See also:
[7-day total precipitation values (inches) map]

[Alaska 7-day precipitation percent of average map]

See also:
[Alaska 7-day total precipitation values (inches) map]

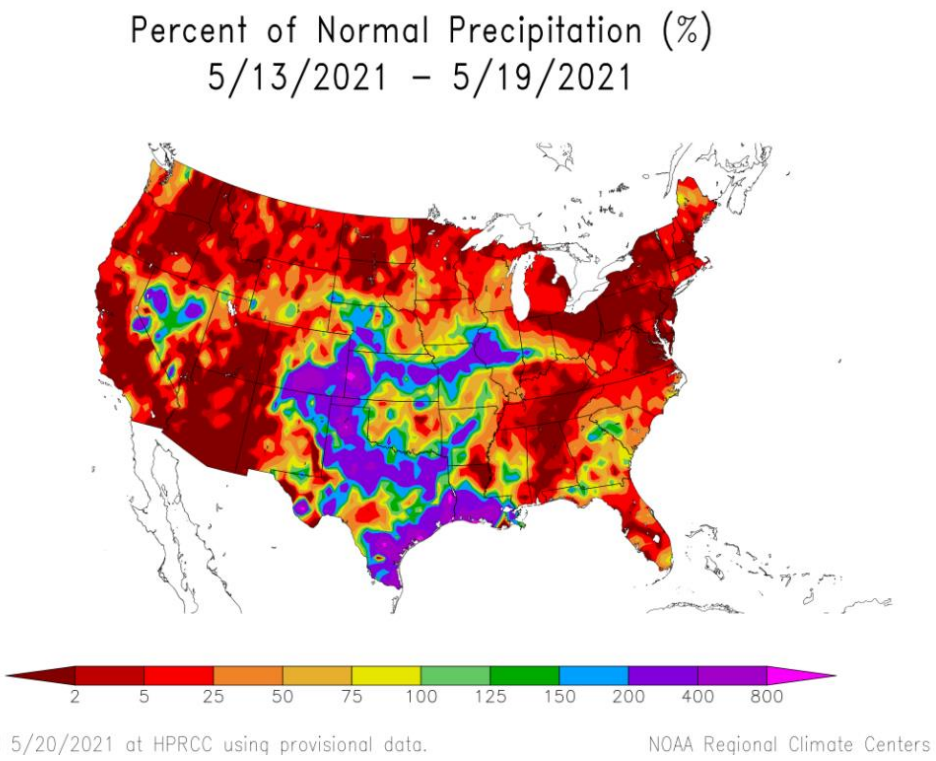


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day precipitation percent of normal map] for the continental U.S.

See also: [7-day total precipitation values (inches) map]

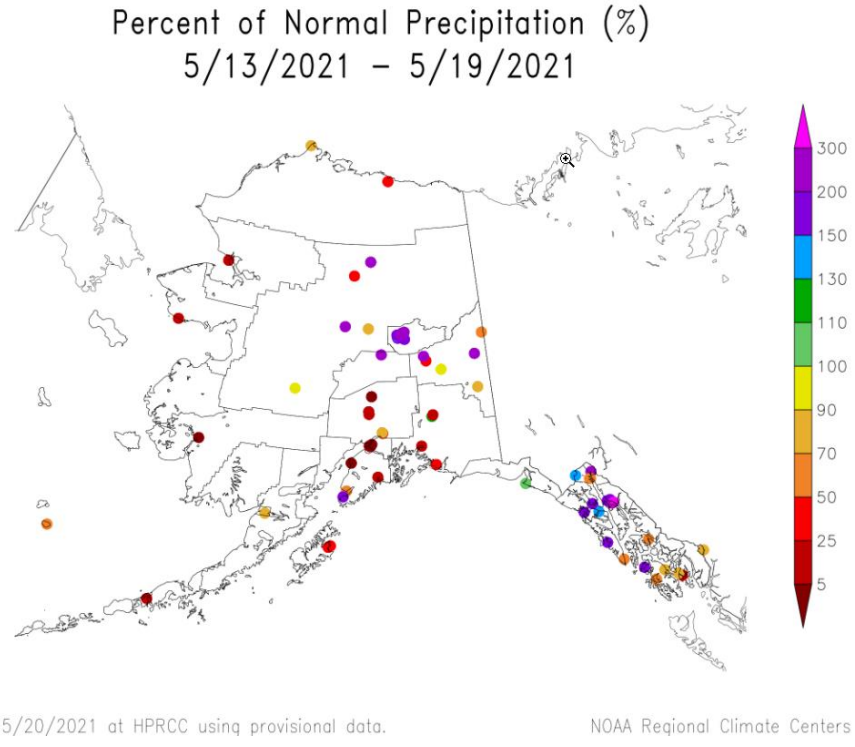


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

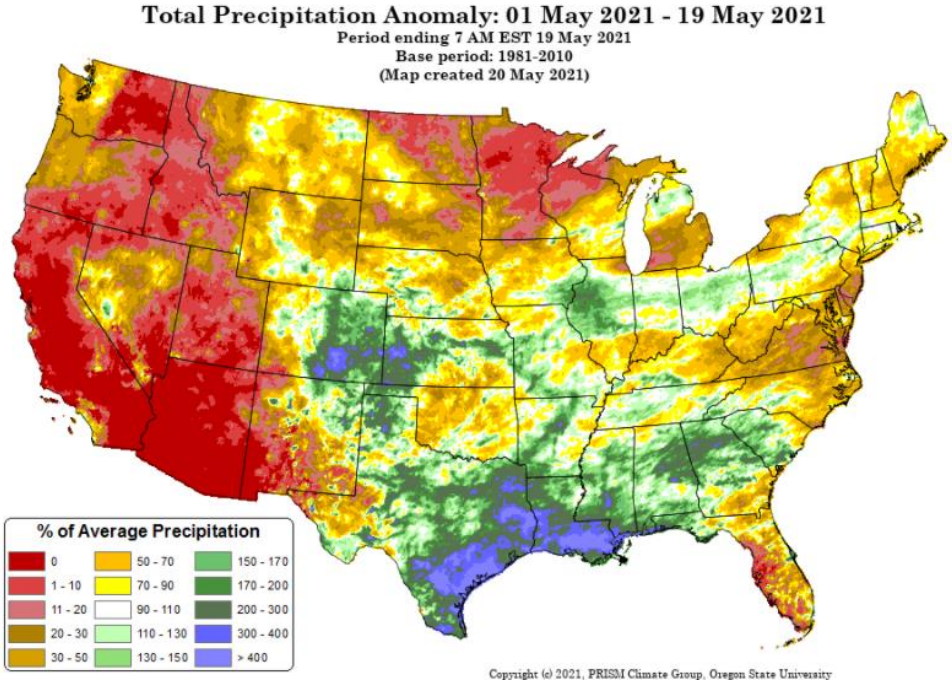
[7-day precipitation anomaly map] for Alaska.

See also:
[7-day total precipitation values (inches) map]



Month-to-Date, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

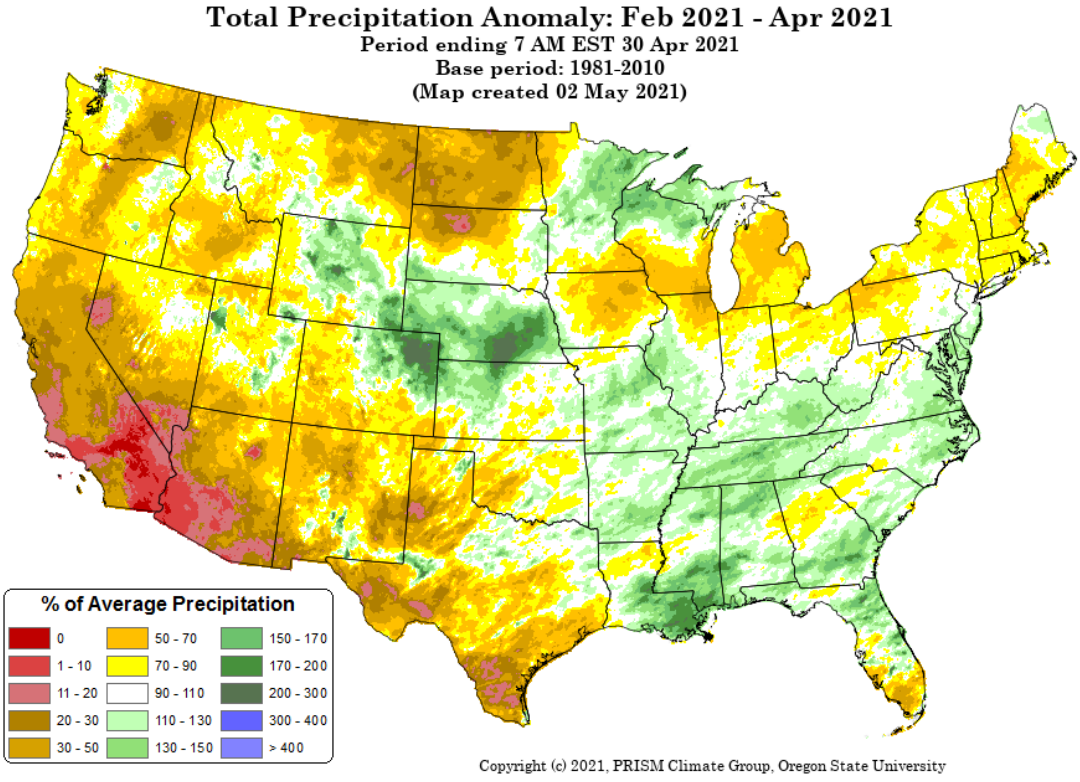


[Month-to-date national total precipitation anomaly map]

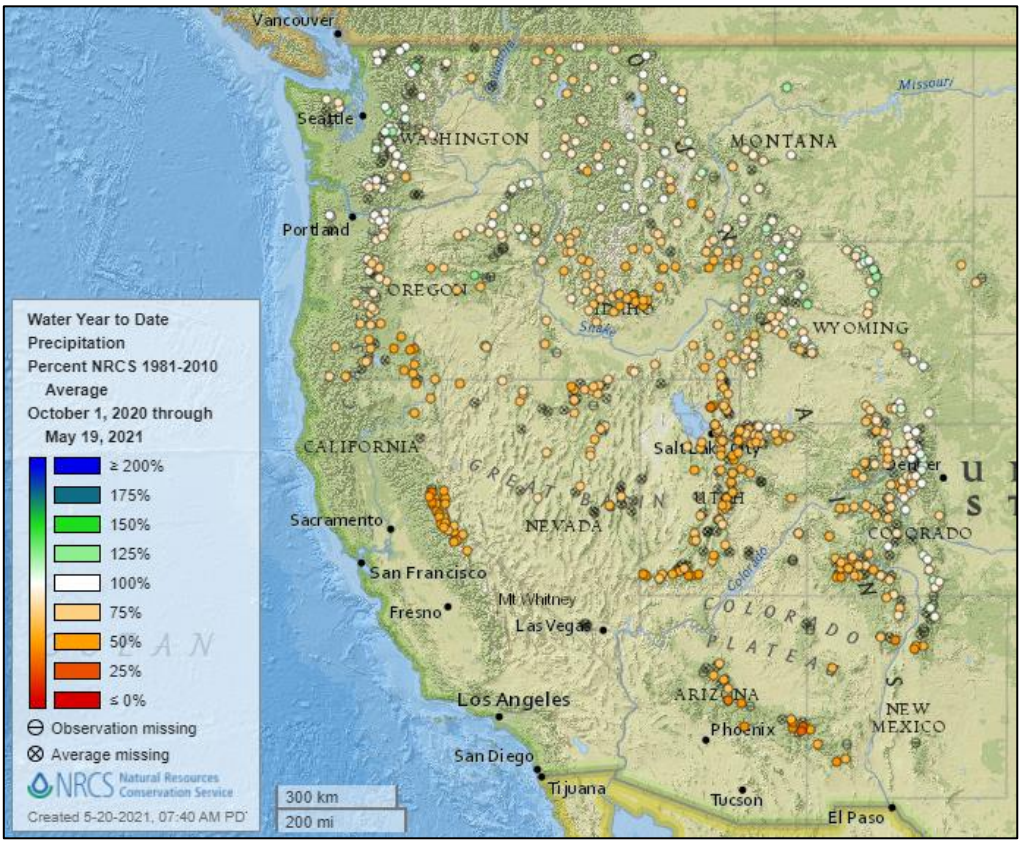
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

[February through April 2021 precipitation anomaly map]

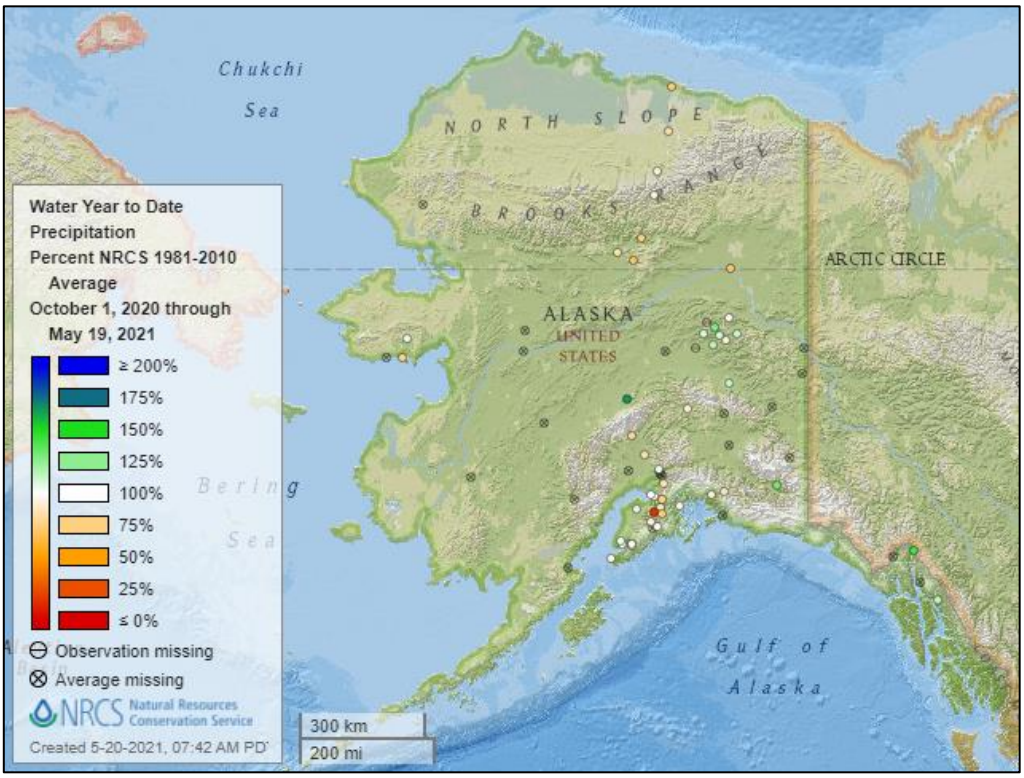


Water Year-to-Date, NRCS SNOTEL Network



[2021 water year-to-date precipitation percent of average map]

See also:
[2021 water year-to-date precipitation values (inches) map]



[Alaska 2021 water year-to-date precipitation percent of average map]

See also:
[Alaska 2021 water year-to-date precipitation values (inches) map]

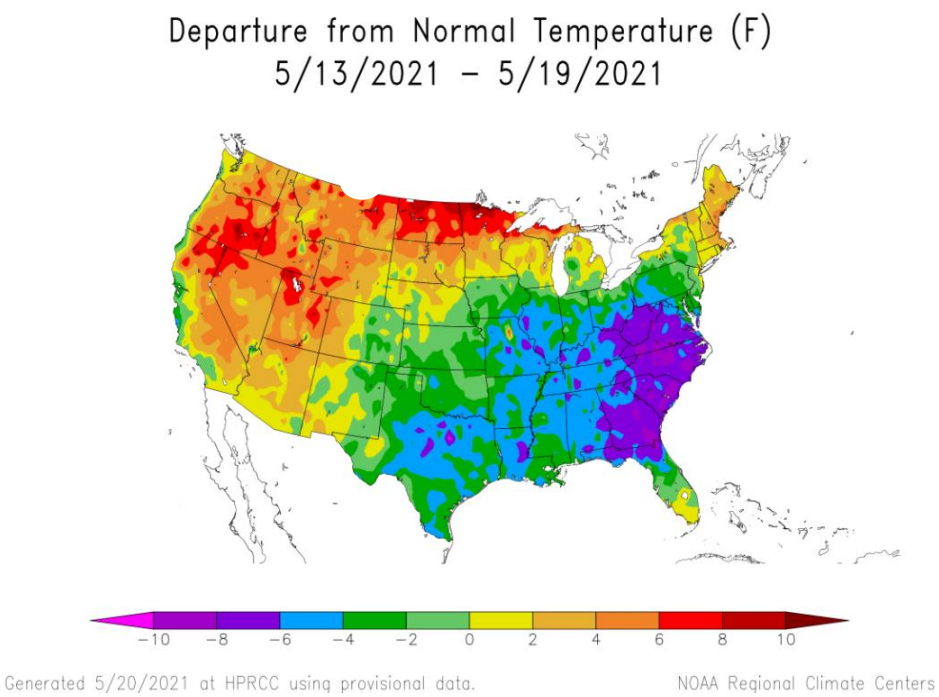
Temperature

Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day temperature anomaly map] for the contiguous U.S.

See also: [7-day temperature (° F) map]

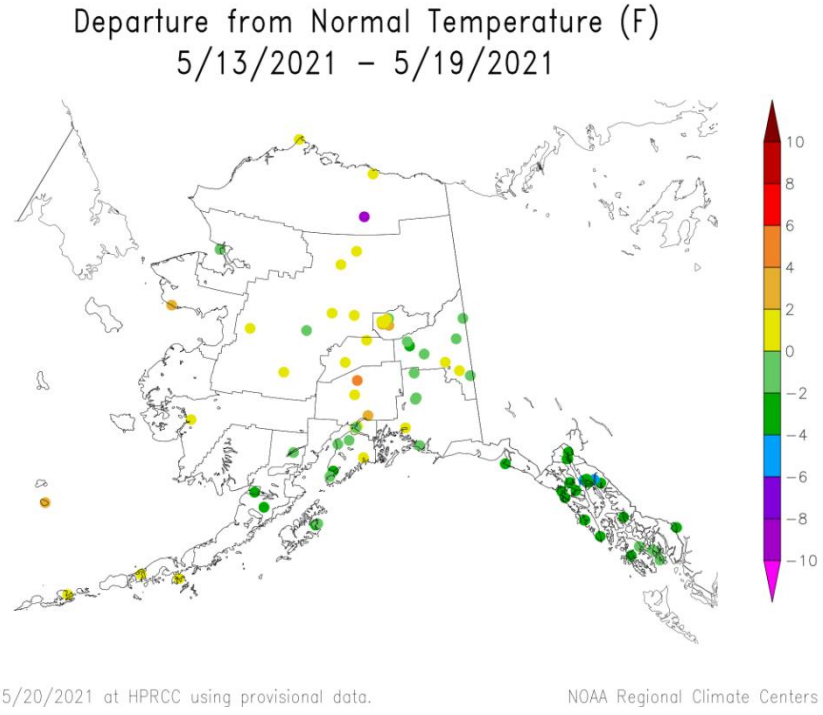


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day temperature anomaly map] for Alaska.

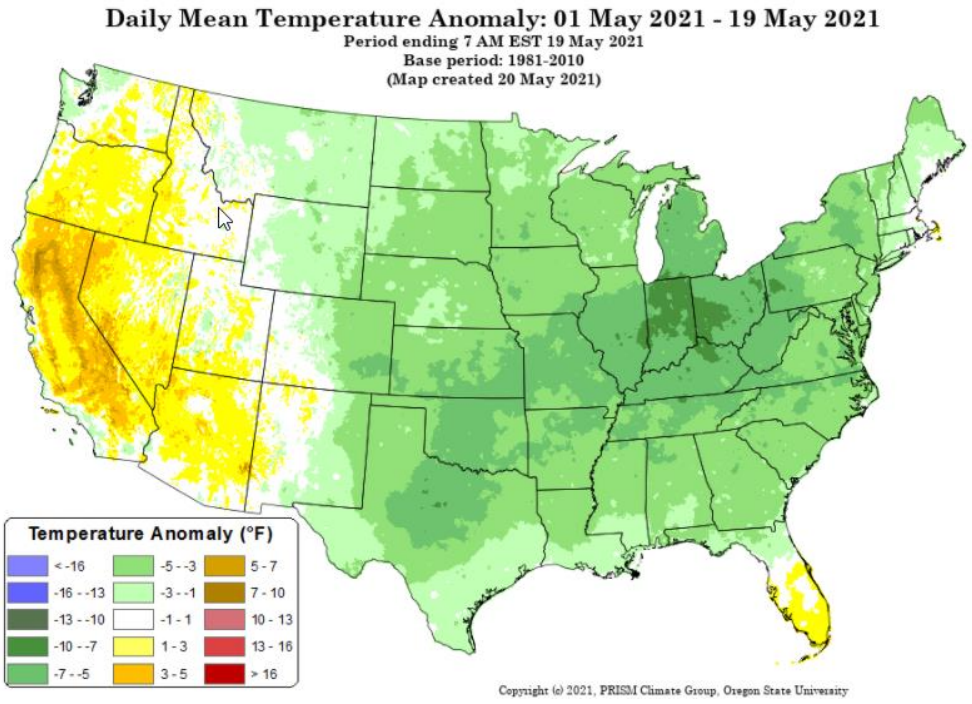
See also: [7-day temperature (° F) map]



Month-to-Date, All Available Data Including SNOTEL and NWS Networks

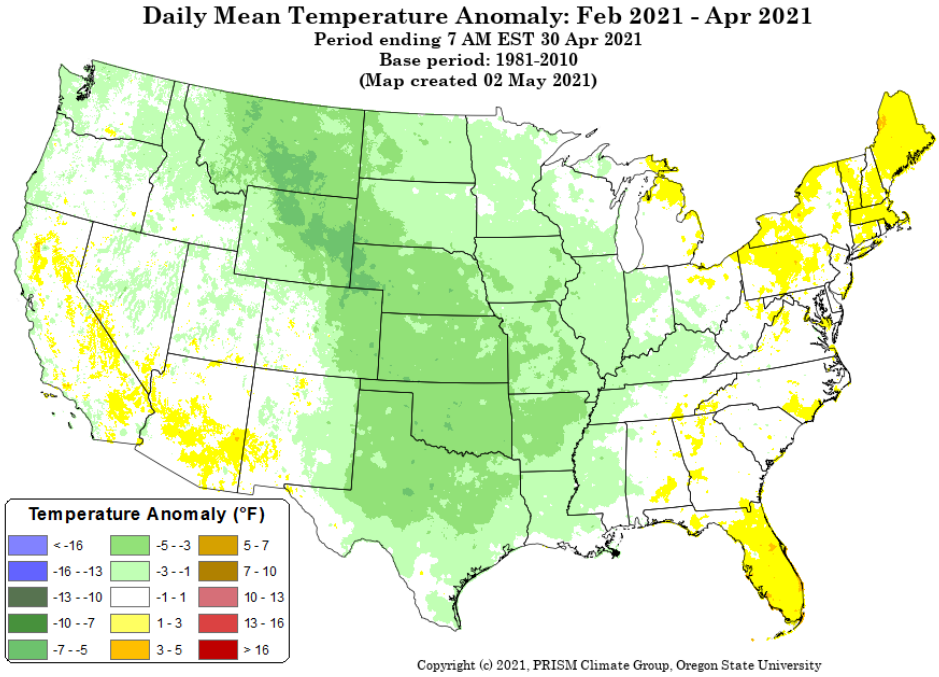
Source: PRISM

[Month-to-date national daily mean temperature anomaly map]



Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

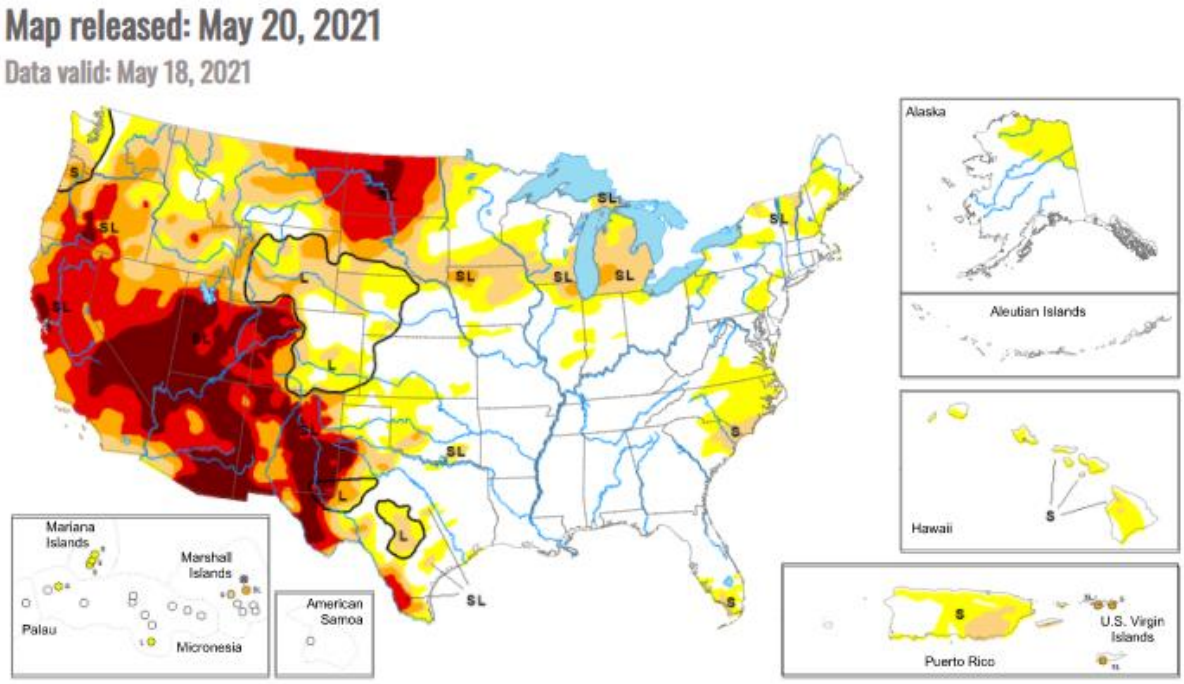


[February through April 2021 daily mean temperature anomaly map]

Drought

U.S. Drought Monitor
Source: National Drought Mitigation Center

U.S. Drought Portal
Source: NOAA



United States and Puerto Rico Author(s):
***Adam Hartman**, NOAA/NWS/NCEP/CPC*

Pacific Islands and Virgin Islands Author(s):
***Denise Gutzmer**, National Drought Mitigation Center*

☐ View grayscale version of the map

The data cutoff for Drought Monitor maps is each Tuesday at 8 a.m. EDT. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

Intensity and Impacts

- **None**
- **D0** (Abnormally Dry)
- **D1** (Moderate Drought)
- **D2** (Severe Drought)
- **D3** (Extreme Drought)
- **D4** (Exceptional Drought)
- **No Data**

~ - Delineates dominant impacts

S - Short-term impacts, typically less than 6 months (agriculture, grasslands)

L - Long-term impacts, typically greater than 6 months (hydrology, ecology)

SL - Short- and long-term impacts

Current National Drought Summary, May 20, 2021

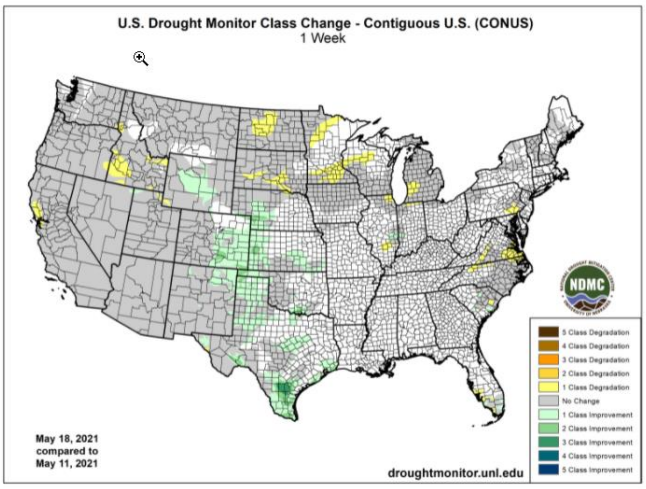
Source: National Drought Mitigation Center

“Troughing over the western CONUS and ridging over the East resulted in strong southerly flow over the Southern and Central Plains, leading to widespread heavy rainfall (0.5 to 3 inches, and more) over portions of the Great Plains, Lower Mississippi Valley, and into western areas of the Corn Belt this week. The heaviest precipitation fell over southeastern Texas and southern Louisiana, where some locations received over 10 inches of rainfall. The heavy rainfall resulted in widespread removal and improvement in drought conditions from the Front Range eastward to Nebraska and Kansas, and southward to the Mexico border. Unfortunately, the moisture was unable to make it farther north than Nebraska, resulting in continued degradations across the Northern Plains, Upper Midwest, and Great Lakes. The Northeast experienced below normal precipitation, but due to below normal temperatures and near-normal precipitation over the past 30-60 days across much of the region, only minor changes to abnormally dry (D0) areas were warranted in southeastern Pennsylvania. In the Southeast, portions of Virginia and North Carolina have continued to dry out over the past 90 days, warranting D0 expansion. Locally heavy rainfall (2 inches) also fell over areas experiencing abnormally dry and moderate drought (D1) in South Carolina and Florida, leading to some modifications in those locations based on rainfall 7-day rainfall totals. The La Nina signal in the West was evident in the precipitation totals at the end of the climatological wet season in March. The presence of this antecedent dryness has resulted in much below-normal snowpack throughout much of the West, leading to continued drought deterioration since the region began its transition into a climatologically drier time of year during April.”

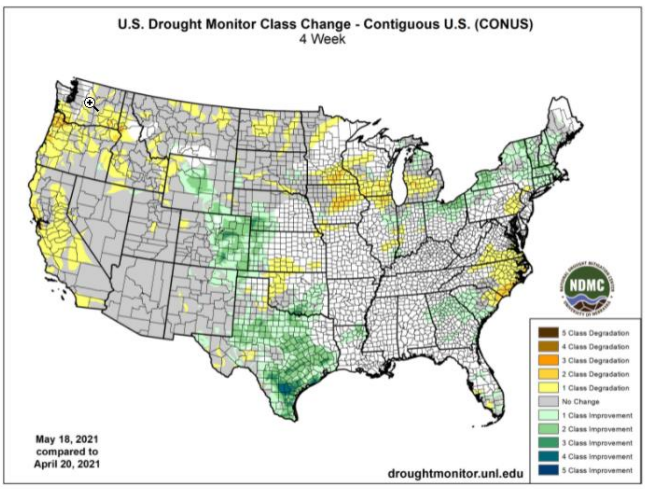
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

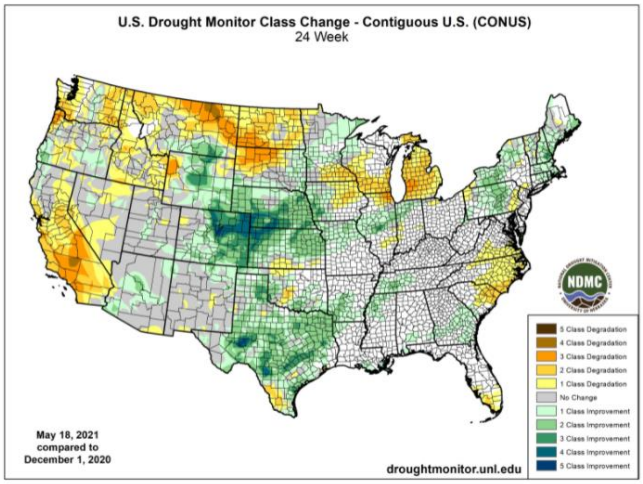
1 Week



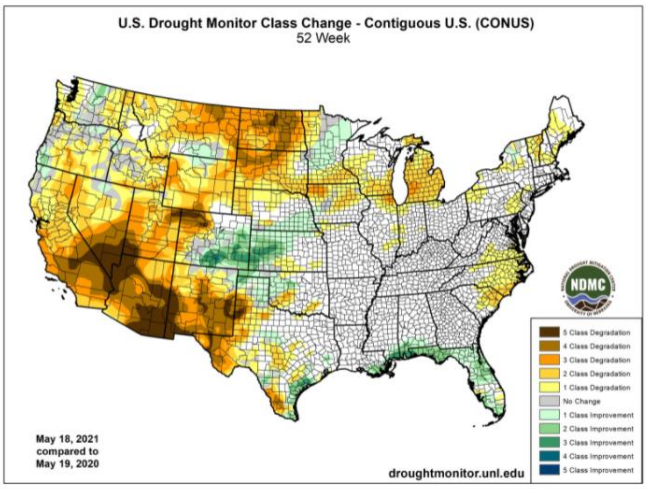
1 Month



6 Months



1 Year



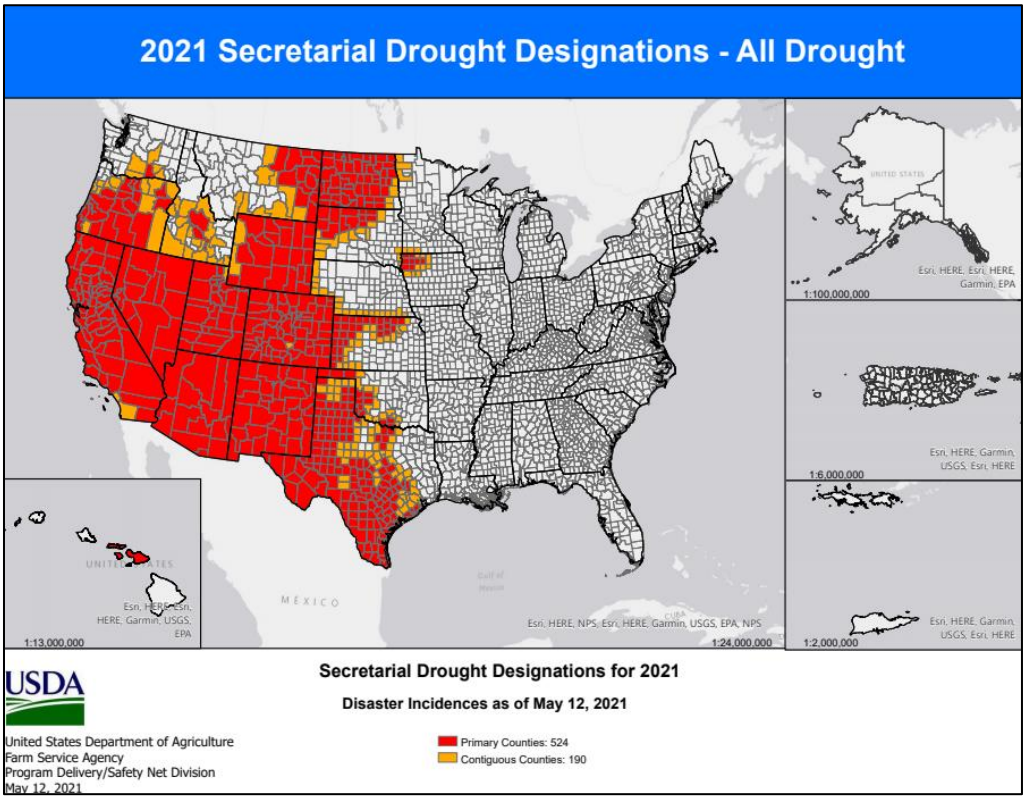
Changes in drought conditions over the last 12 months for the contiguous U.S.

Highlighted Drought Resources

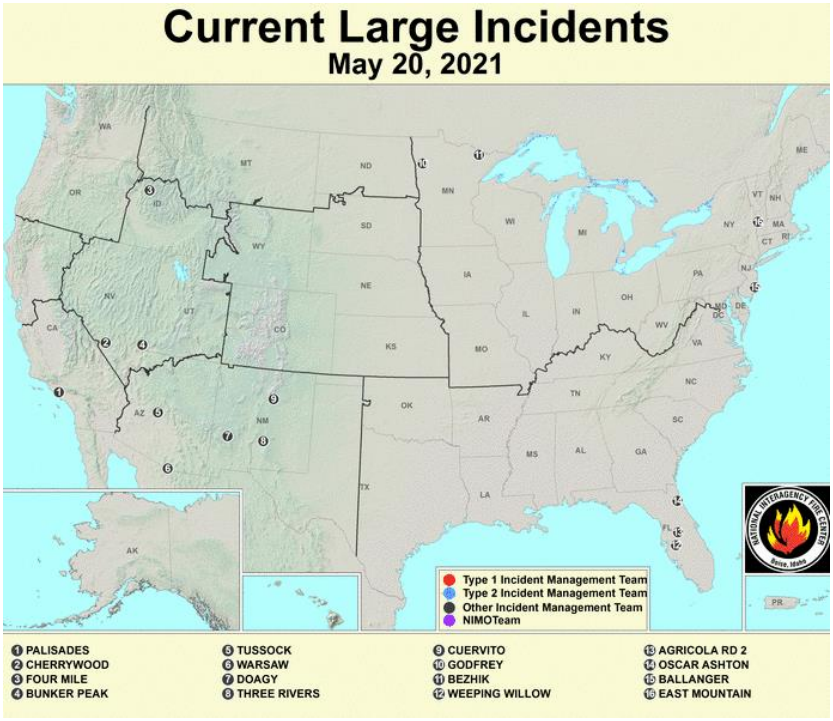
- Drought Impact Reporter
- Quarterly Regional Climate Impacts and Outlook
- U.S. Drought Portal Indicators and Monitoring
- U.S. Population in Drought, Weekly Comparison
- USDA Disaster and Drought Information

Secretarial Drought Designations

Source: USDA Farm Service Agency



Wildfires: USDA Forest Service Active Fire Mapping



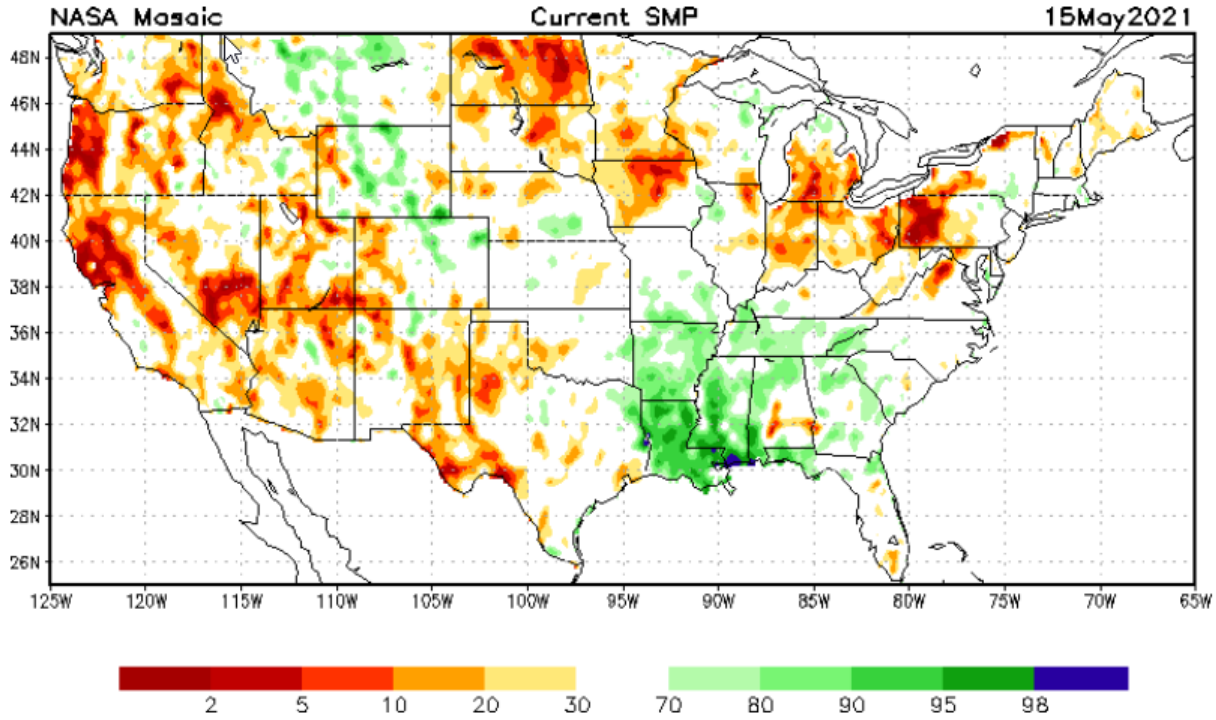
Highlighted Wildfire Resources

- National Interagency Fire Center
- InciWeb Incident Information System
- Significant Wildland Fire Potential Outlook

Other Climatic and Water Supply Indicators

Soil Moisture

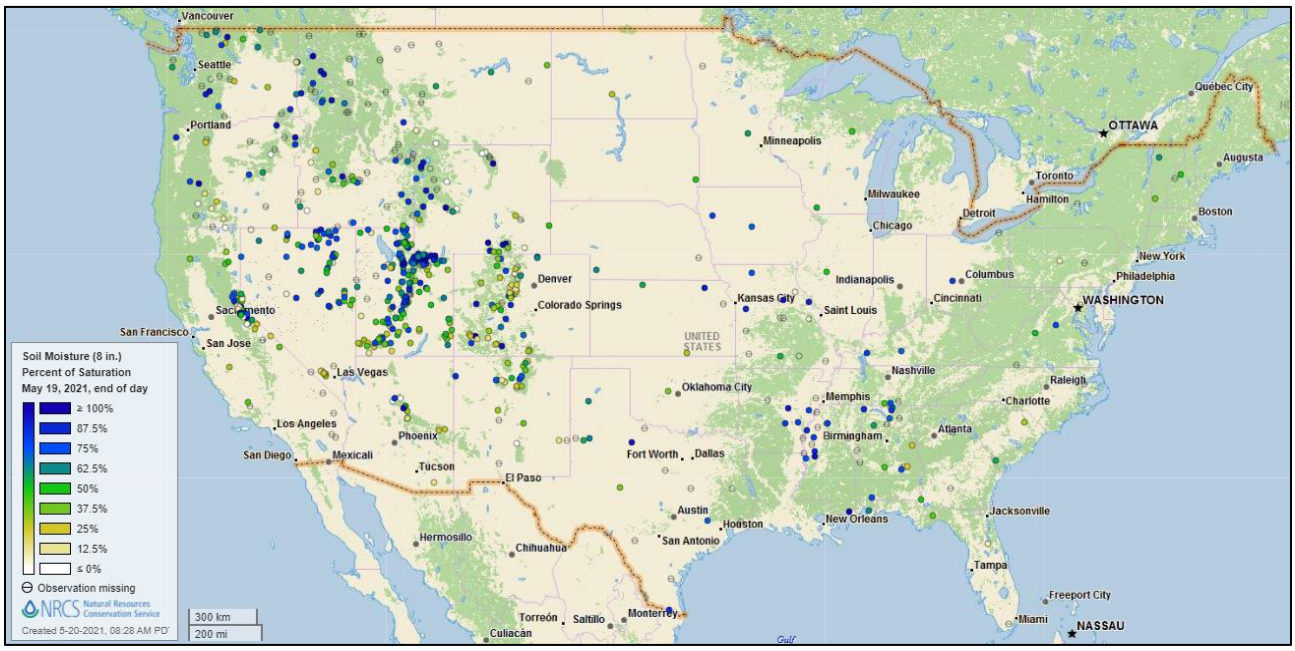
Source: NOAA National Centers for Environmental Prediction



Modeled soil moisture percentiles as of May 15, 2021

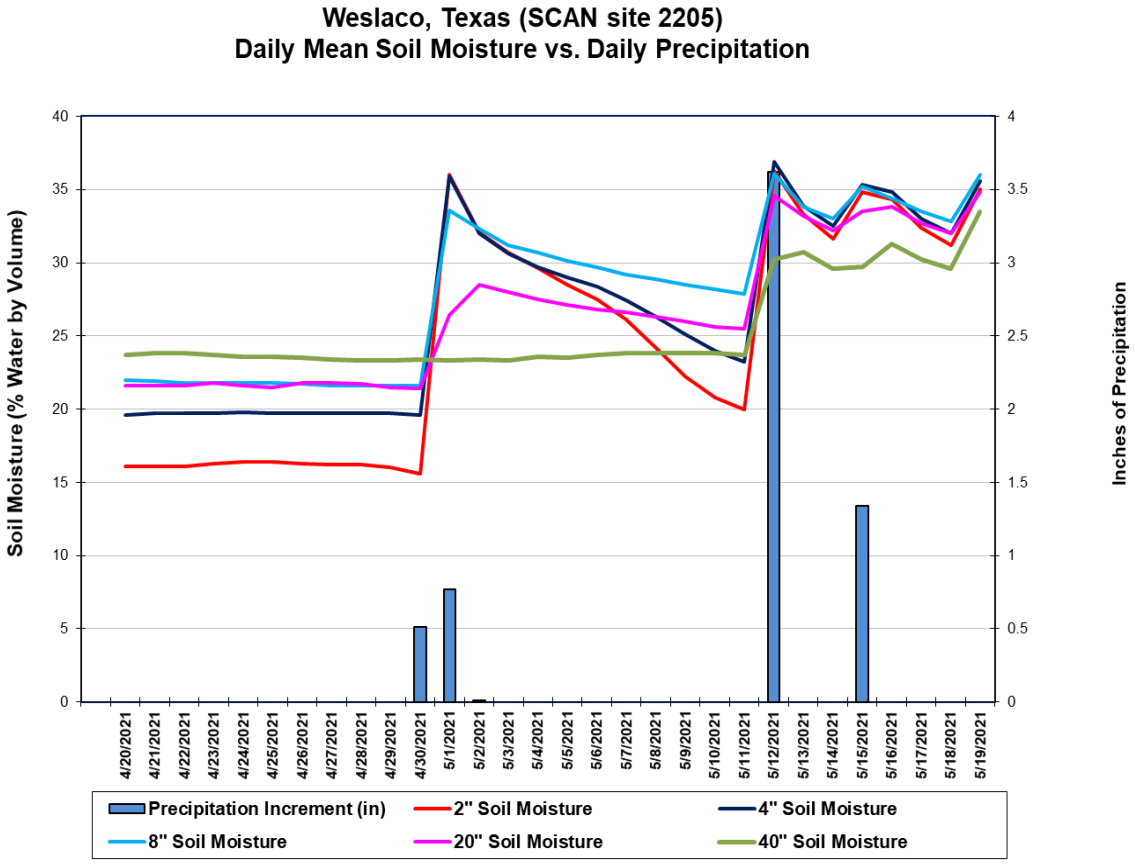
Soil Moisture Percent of Saturation

Source: NRCS SNOTEL and Soil Climate Analysis Network (SCAN)



Soil Moisture

Source: NRCS Soil Climate Analysis Network (SCAN)



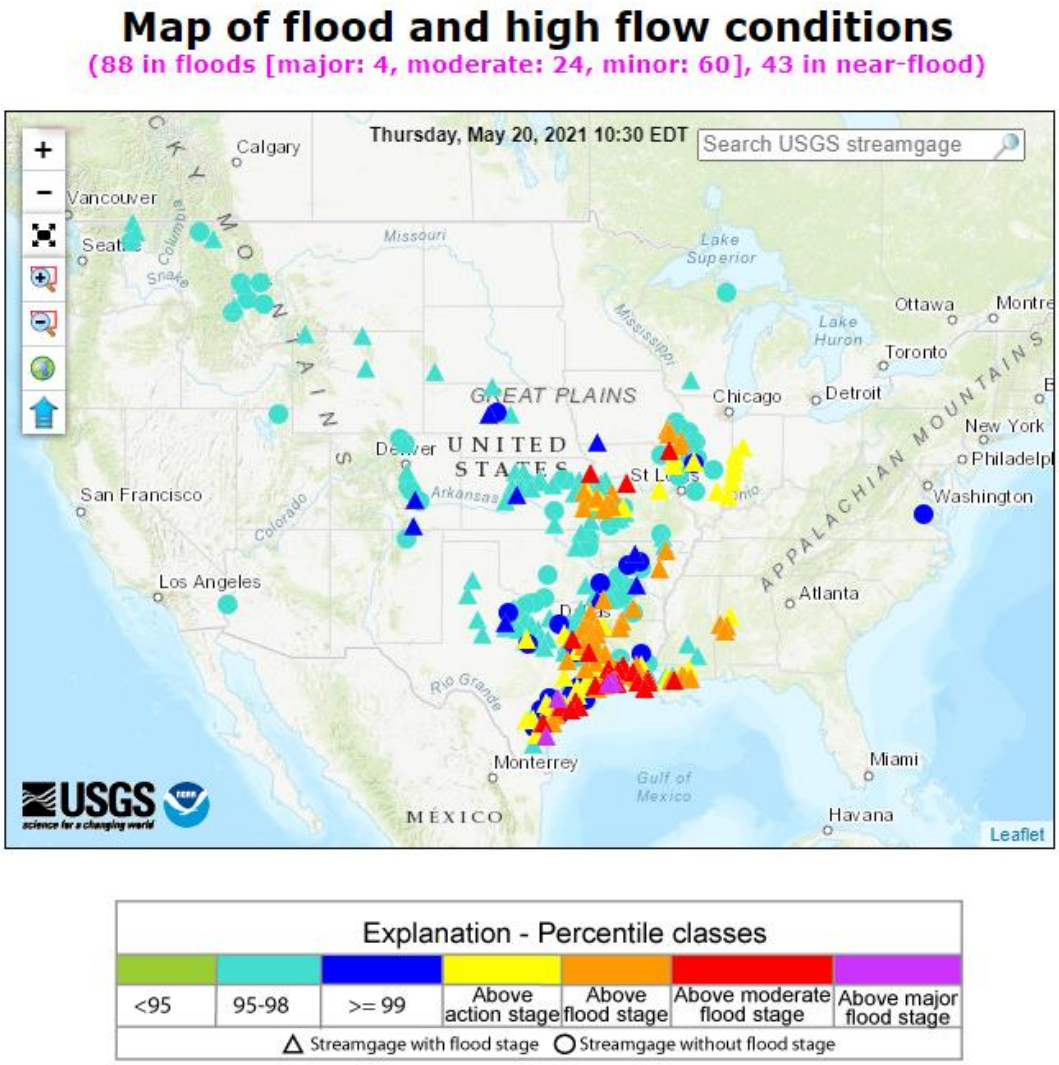
This chart shows the precipitation and soil moisture for the last 30 days at the Weslaco SCAN site in Texas. Precipitation of 3.62 inches fell on May 12 and increased the soil moisture at all depth sensors. The 30-day precipitation total for the station is 6.25 inches.

Soil Moisture Data Portals

- USCRN Soil Moisture
- National Soil Moisture Network
- NOAA Climate Prediction Center Soil Moisture
- NASA Grace

Streamflow, Drought, Flood, and Runoff

Source: U.S. Geological Survey



WaterWatch: Streamflow, drought, flood, and runoff conditions

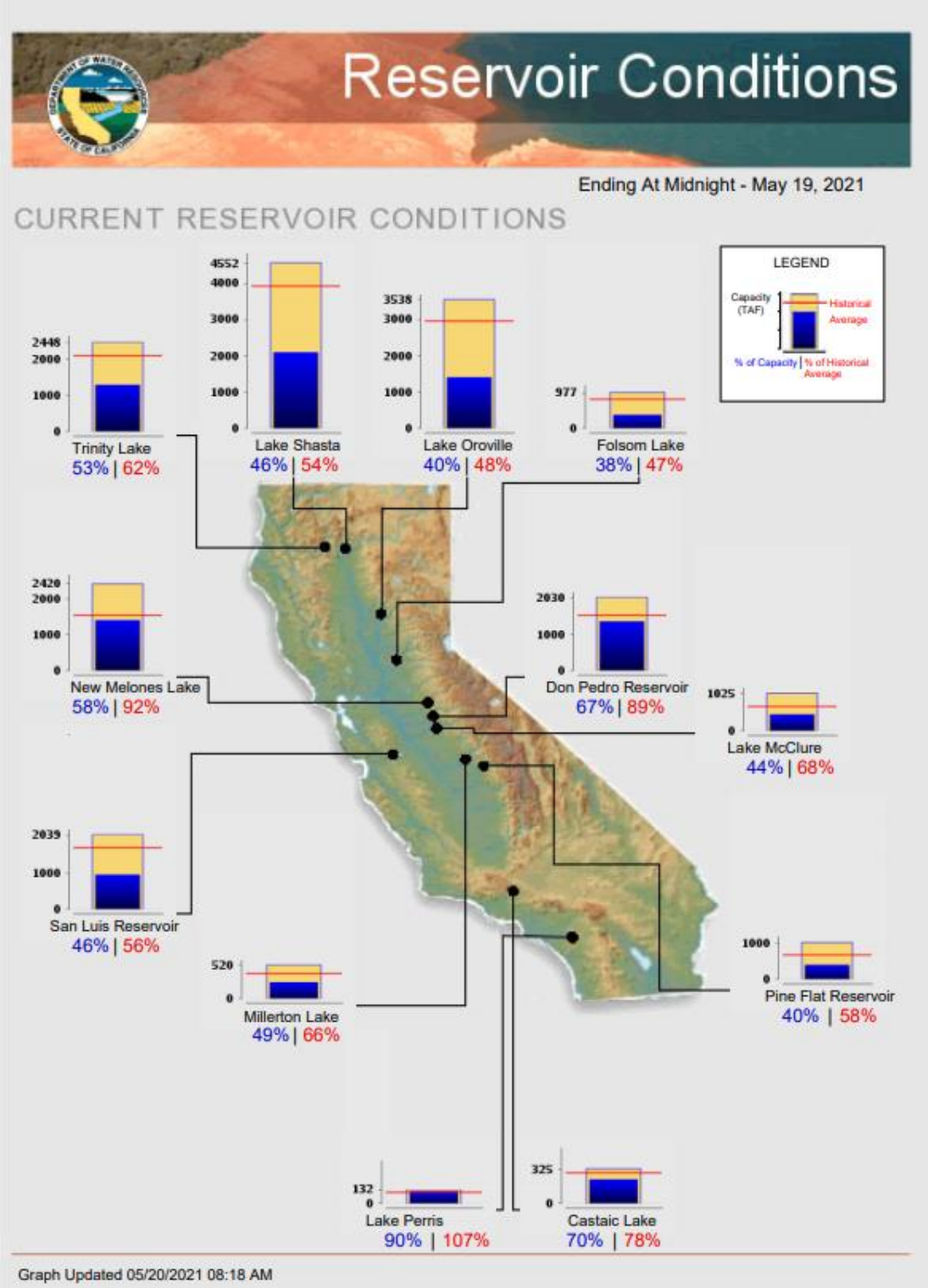
Reservoir Storage

Hydromet Teacup Reservoir Depictions

Source: U.S. Bureau of Reclamation

- Upper Colorado
- Pacific Northwest/Snake/Columbia
- Sevier River Water, Utah
- Upper Missouri, Kansas, Oklahoma, Texas

Current California Reservoir Conditions
Source: California Department of Water Resources



Current California Reservoir Conditions

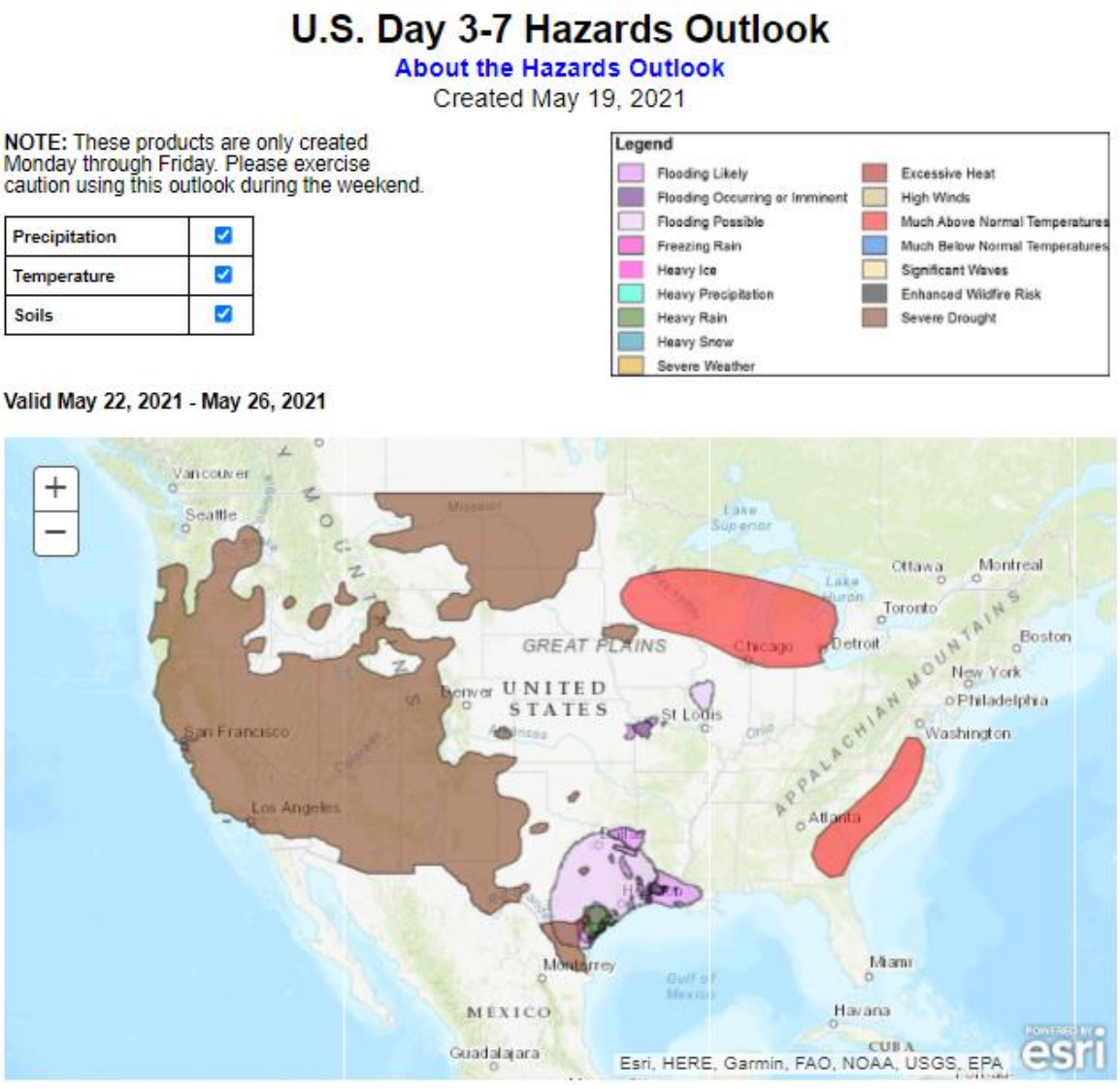
Agricultural Weather Highlights

Author: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB

National Outlook, Thursday, May 20, 2021: "A complex U.S. weather pattern will feature a plume of moisture extending northward from the Gulf Coast and a slow-moving storm system crossing the West. The interaction between the moisture plume and the Western storm will lead to drought-easing precipitation (locally 1 to 3 inches) across northern sections of the Rockies and Plains. Some of the Northern precipitation will fall as late-season snow. Several parts of the western U.S., including the Great Basin, Northwest, and central and southern Rockies, will receive beneficial but generally light precipitation, while much of California and the Desert Southwest will remain dry. Farther east, additional heavy showers in the western half of the Gulf Coast region could aggravate the flood situation. In contrast, little or no rain will fall during the next 5 days in the Ohio Valley and the Southeast. Near- or above-normal temperatures will accompany the Southeastern dryness, while cool conditions will linger across the northern High Plains and much of the West. The NWS 6- to 10-day outlook for May 25 – 29 calls for the likelihood of near- or above normal temperatures and near- or below-normal rainfall across most of the country. Cooler-than-normal conditions will be confined to an area stretching from the Pacific Northwest to the northern High Plains, while wetter-than-normal weather should be limited to portions of the central and southern Plains and the lower Midwest, including the mid-Mississippi Valley."

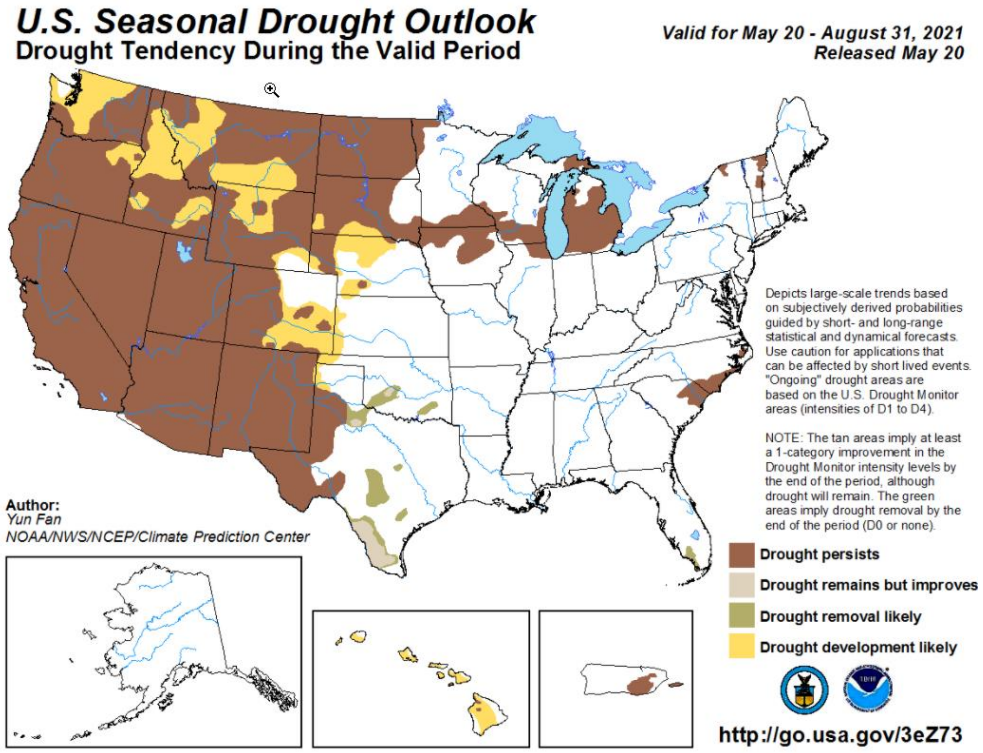
Weather Hazards Outlook: May 22 – 26, 2021

Source: NOAA Weather Prediction Center



Seasonal Drought Outlook: May 20 – August 31, 2021

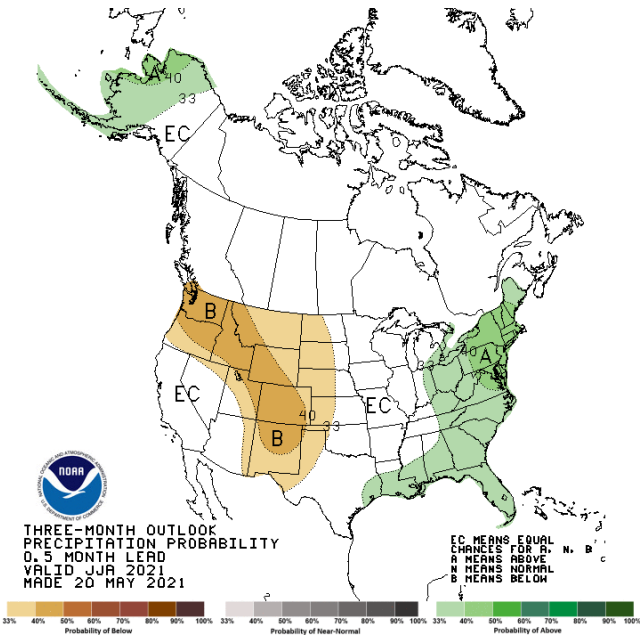
Source: National Weather Service



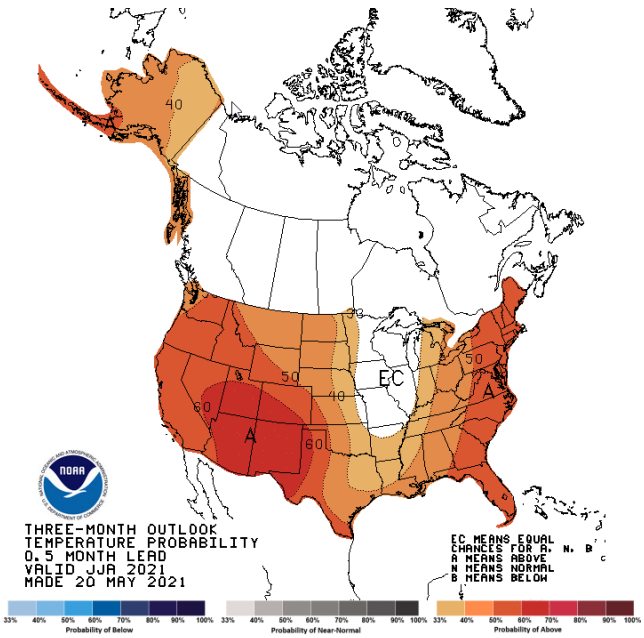
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



June-July-August (JJA) 2021 precipitation and temperature outlook summaries

More Information

The NRCS National Water and Climate Center publishes this weekly report. We welcome your feedback. If you have questions or comments, please contact us.